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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/553,550	10/19/2005	Volker Stefan Gierenz	NL 030408	4049

24737 7590 10/20/2006

PHILIPS INTELLECTUAL PROPERTY & STANDARDS  
P.O. BOX 3001  
BRIARCLIFF MANOR, NY 10510

EXAMINER

JEAN PIERRE, PEGUY

ART UNIT	PAPER NUMBER
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2819

DATE MAILED: 10/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/553,550	<b>Applicant(s)</b> GIERENZ ET AL.	
	<b>Examiner</b> Peguy JeanPierre	<b>Art Unit</b> 2819	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 October 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 October 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                                   |                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                              | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>10.19.05</u> . | 6) <input type="checkbox"/> Other: _____                                                |

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

2. The information disclosure statement filed on 10/19/2005 has been considered.

### ***Drawings***

3. The drawings are objected to because the different blocks in Figures 1-9 are not labeled. For instance, block B1 of Fig. must be labeled analog to digital converter. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the

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applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Specification***

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.
5. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.
6. The preferred layout of the specification (Background of the Invention; Summary of the Invention; Detailed Description of the Drawings etc...) is missing.
7. The specification has not been checked to the extent necessary to determine the presence of all typographical and grammatical errors. Applicant's cooperation is requested in correcting any errors he/she may become aware in the application.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

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not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noro et al. (USP 6,445,320) in view of Eriksson et al. (US 2003/0083031).

With regard to claims 1, 16, and 18, Noro discloses a device that comprises a processing circuit, a gain control circuit that comprises a first gain controller with a first gain factor for controlling the amplitude of an input signal, a second controller with a second gain factor for receiving the output of the processing circuit to obtain a compensated output signal that is substantially compensated for an amplitude change of the gain controlled due to a change of the first gain factor. The first gain control controls the sigma delta modulator (1) and the second gain control controls another digital circuit (3). With regard to claim 2, the processing circuit is an analog to digital converter that converts the gain controlled signal to digital signal, with regard to claims 3-4, the gain determining circuit receives the digital signal and an output for supplying the first gain factor based on the amplitude of the gain controlled signal. With regard to claim 9, Noro further discloses DC offset component that is present in the input signal (see col. 18, lines 56-63). With regard to claim 10 the analog to digital converter of Noro is a single bit sigma delta type that can be used in an audio device. With regard to claims 12-14, the digital signal processing circuit of Noro receives the digital output from the single bit sigma delta modulator and the gain control circuit controls the gain of the processing circuit (3).

With further regard to claims 1, 16, and 18 Noro et al. does not teach a compensation circuit that determines the second gain factor based on the first gain factor and input parameters that define a time variation of the second gain factor. Eriksson et al. disclose an automatic gain control circuit (AGC) that is coupled to a digital compensation circuit that generates a second gain factor based on a first gain factor (see paragraphs 6 and 7). With regard to claim 4-5, 7 Noro does not teach the adapting of the first gain factor in step and a waveform compensation of the second gain factor. Eriksson discloses in Figure 2, a waveform illustrating a gain step of the first gain factor (PADC) and a waveform (Pout) of the second gain factor.

With regard to claims 8, 15, and 17 for storing the compensated gain data, Eriksson et al. disclose a lookup table for storing the compensated gain values (see paragraph 8).

With regard to claim 6, Noro does not teach a time delay between the gain controlled signal and the compensated output. Ericksson et al. introduce time delay to allow sufficient time for the gain to be adjusted (see paragraph 3).

The system of Eriksson eliminates and reduces transients caused by changing the gain of the gain controlled circuit. Therefore, it would have been obvious to one having ordinary skill in the art to modify the gain controlled circuit of Noro et al. by adding a compensation to help in determining the second gain factor and to provide a lookup table to store compensated gain values as taught by Eriksson et al. to increase performance, minimize distortion and bit error rate in controlling and adjusting the gain of processing circuit. It would have been further obvious to adjust the gain of the compensated output signal until no change in the amplitude occurs.

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**Conclusion**

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Attar (USP 6,873,831), cai (USP 7,057,195), Maselli USP 4,218,733), Sogo (USP 5,451,944) disclose method for controlling gain in analog to digital converter circuit.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peguy JeanPierre whose telephone number is (571) 272-1803. The examiner fax phone number is (571) 273-1803.

A handwritten signature in black ink, appearing to read "Peguy JeanPierre", with a stylized flourish at the end.

Peguy JeanPierre  
Primary Examiner